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March 31, 2000

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MAR 31 2000

OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas
Secretary
Federal Communication Commission
445 Twelfth Street S.W., Room TWA325
Washington, D.C. 20554

Re: Ameritech Operating Companies' March 31, 2000 ONA Report

Dear Ms. Salas:

Pursuant to the Commission's December 19, 1991 Memorandum Opinion and Order in CC Docket No. 88-2, Phase I (FCC 91-382), SBC Communications Inc. files this March 31, 2000, Open Network Architecture (ONA) Report for Ameritech Operating Companies (AOCs). This information was required initially on March 31, 1992 and every six months thereafter. The information herein is based upon the most current version of the ONA Services User Guide, which contains data as of January 31, 2000. Specifically, AOCs' responses to the six items required by Appendix B of the Order, pages 33 - 34, are described below.

Attached hereto is a consolidated nationwide matrix of Bell Operating Company (BOC) ONA services and state and federal ONA tariffs, as required by item (1) of Appendix B, page 33. The format of the matrix is the result of informal discussions involving representatives of the BOCs, the Commission and the Information Industry Liaison Committee (IILC). The IILC merged with the Industry Carriers Compatibility Forum (ICCF) in January of 1997 to form the Network Interconnection/Architecture (NIA) Committee. Also, SBC is providing the associated diskettes with the data regarding Ameritech Operating Companies' state and federal tariffs, as required by item (2) of Appendix B, page 33. Finally, attached is a printed copy of the ONA Services User Guide, as required by item (3) of Appendix B, page 33. The update to information formerly contained in Appendix C - region-specific services and generic technical descriptions relating to capabilities offered in response to Enhanced Service Provider requests - may be found in Appendix 1, starting after page 193. The associated computer diskettes are being provided herein.

Please contact me at 202-326-8842 if you have any questions.

Thanks.

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Attachments

ATTACHMENT 1

ABBREVIATIONS

Generic Name of Service Abbreviated Name	Generic Name of Service Full Name
555 Access Service	555 Access Service
AIN Alternate Routing	Advanced Intelligent Network Alternate Routing
AIN Single Number Access	AIN Single Number Access
AIN Term Data Co/Cus Rt	AIN Terminating Data Collection/Customized Routing
ATM Cell Relay Service	ATM Cell Relay Service
Acc To Clr Ch Transmissn	Access To Clear Channel Transmission
Access To OSS Info	Access To Operations Support Systems Information
Access to Cust Prem Annc	Access To Customer Premises Announcement
Access to Ord'r Entry Sys	Access To Order Entry System
Alternate Routing	Alternate Routing
Answer Supv'n Line Side	Answer Supervision With A Line Side Interface
Asyn Tran Mode (ATM) Svc	Asynchronous Transfer Mode (ATM) Service
Auto Disaster Rec. DID	Automatic Disaster Recovery of DID
Automatic Callback	Automatic Callback
Automatic Protect Swtchg	Automatic Protection Switching
Automatic Recall	Automatic Recall
Bridging	Bridging
Bridging - Line	Bridging - Line
C1 TypA - Ckt Sw Line	Category 1, Type A - Circuit Switched Line BSA
C1 TypB - Ckt Sw Trunk	Category 1, Type B - Circuit Switched Trunk BSA
C2 TypA - X.25 Pkt Sw	Category 2, Type A - X.25 Packet Switched BSA
C2 TypB - X.75 Pkt Sw	Category 2, Type B - X.75 Packet Switched BSA
C3 TypA - Ded Metallic	Category 3, Type A - Dedicated Metallic BSA
C3 TypB - Ded Telegraph	Category 3, Type B - Dedicated Telegraph BSA
C3 TypC - Ded Voice Grd	Category 3, Type C - Dedicated Voice Grade BSA
C3 TypD - Ded Prgm Audio	Category 3, Type D - Dedicated Program Audio BSA
C3 TypE - Ded Video	Category 3, Type E - Dedicated Video BSA
C3 TypF - Ded < 64kbps	Category 3, Type F - Dedicated Digital (<64kbps)BSA
C3 TypG - Ded 1.544Mbps	Category 3, Type G - Dedicated High Capacity Digital (1.544 Mbps) BSA
C3 TypH - Ded >1.544Mbps	Category 3, Type H - Dedicated High Capacity Digital (>1.544 Mbps) BSA
C3 TypI - Ded Alrt Trnsp	Category 3, Type I - Dedicated Alert Transport BSA
C3 TypJ - Ded Derived Ch	Category 3, Type J - Dedicated Derived Channel BSA
C3 TypK - Ded 64 kbps	Category 3, Type K - Dedicated Digital (64 kbps) BSA
C4 - Ded Ntwk Accss Link	Category 4 - Dedicated Network Access Link BSA
CF Mult Sim Call Intersw	Call Forwarding - Multiple Simultaneous Calls Interswitch
CF Var Act w/o Crtsy Cal	Call Forwarding - Variable - Activation Without Courtesy Call
CF Var Remote Act/Cntrl	Call Forwarding - Variable-Remote Activation/Control
CF Variable	Call Forwarding - Variable
CF With Variable Rings	Call Forwarding With Variable Rings
CFBL Interswitch	Call Forwarding - Busy Line Interswitch
CFBL Intrswitch	Call Forwarding - Busy Line Intrswitch
CFBL/DA Cust Act/Deact	Call Forwarding - Busy Line or Don't Answer - Customer Control of Activation/Deactivation
CFBL/DA Cust Chg Fwd No.	Call Forwarding - Busy Line or Don't Answer - Customer Control of Forward-To Number
CFDA After CW	Call Forwarding Don't Answer After Call Waiting

ABBREVIATIONS

Generic Name of Service Abbreviated Name	Generic Name of Service Full Name
CFDA Interswitch	Call Forwarding - Don't Answer Interswitch
CFDA Intraswitch	Call Forwarding - Don't Answer Intraswitch
CFDA To DID Intraswitch	Call Forwarding Don't Answer To DID Intraswitch
Call Denial - Line/Hunt	Call Denial On Line Or Hunt Group
Call Det Rcdg-NXX Screen	Call Detail Recording Reports - via NXX Screening
Call Det Recd'g Rpts Pkt	Call Detail Recording Reports (Packet)
Call Detail Recrd'g Rpts	Call Detail Recording Reports
Call Forwarding Originating	Call Forwarding Originating
Call Redirect Acceptance	Call Redirection Acceptance
Call Redirection Packet	Call Redirection - Packet
Call Transfer On DID	Call Transfer On DID
Call Waiting	Call Waiting
Call Waiting Cancel	Call Waiting - Cancel
Clld DN Deliv via 900NXX	Called Directory Number Delivery via 900NXX
Clld DN Deliv via DID	Called Directory Number Delivery via DID
Clld/Clld Numbr Info-ANI	Called/Calling Number Information - ANI
Clld Blg Num Deliv FG B	Calling Billing Number Delivery - FG B Protocol
Clld Blg Num Deliv FG D	Calling Billing Number Delivery - FG D Protocol
Clld DN Deliv via BCLID	Calling Directory Number Delivery - via BCLID
Clld DN Deliv via ICLID	Calling Directory Number Delivery - via ICLID
Closed User Groups Pkt	Closed User Groups - Packet
Coin Ph-Post Dial DTMF	Coin Phone With Post Dialing Tone Capability
Computr Assist Call Xfer	Computer Assisted Call Transfer Acceptance
Computr Assist Dialing	Computer Assisted Dialing Acceptance
Conditioning	Conditioning
Coord Voice and Data	Coordinated Voice and Data Acceptance
Cust Originated Trace	Customer Originated Trace
Custom Service Areas	Custom Service Areas
Cut Off On Disconnect	Cut Off On Disconnect
Cxr Select On Rvrs Chrg	Carrier Selection On Reverse Charge
DID Load Across WC	DID Load Across Wire Centers
DID Trunk Queuing	DID Trunk Queuing
DNAL Alarm Service	Ameritech - DNAL - Type F - Alarm Service
DNAL Amtch Reconfig Svcs	Ameritech - DNAL - Type E - Ameritech Reconfiguration Service
DNAL Amtch Sw-Cmputr Apl	Ameritech - DNAL - Type G - Ameritech Switch to Computer Applications (ASCAI)
DNAL Ckt Sw Fac Cntrl	Ameritech - DNAL - Type B - Circuit Switch Facility Control
DNAL SMDI	Ameritech - DNAL - Type C - Simplified Message Desk Interface (SMDI)
DNAL SMDI-E	Ameritech - DNAL - Type D - Simplified Message Desk Interface-Expanded (SMDI-E)
DNAL STP Access	Ameritech - DNAL - Type A - Signal Transfer Point Access (STP)
DS0-B Subrate Multiplx	DS0-B Subrate Multiplexing Service
Data Over Voice (DOV)	Data Over Voice (DOV) Service
Default Window Size-Pkt	Default Window Size - Packet
Derived Ch (Monitoring)	Derived Channels (Monitoring)
Dial Call Waiting	Dial Call Waiting

ABBREVIATIONS

Generic Name of Service Abbreviated Name	Generic Name of Service Full Name
Dialed Num ID/INWATS-DID	Dialed Number Identification via INWATS to DID
Digital Data Service 2-Wire	Digital Data Service 2-Wire
Dir Call Pickup w/Barge	Directed Call Pickup With Barge-In
Dir Call Pickup w/oBarge	Directed Call Pickup Without Barge-In
Direct Call Packet	Direct Call - Packet
Dist Ring Term Screen	Distinctive Ringing - Terminating Screening
Distinctive Alert	Distinctive Alert
Distinctive Ringing	Distinctive Ringing
Extended Superframe Cond	Extended Superframe Conditioning
Fast Select Accept Pkt	Fast Select Acceptance - Packet
Fast Select Request Pkt	Fast Select Request - Packet
Faster Signaling On DID	Faster Signaling On DID
Flexible ANI	Flexible ANI Information Digits
Flow Contr Param Neg-Pkt	Flow Control Parameter Negotiation - Packet
Frame Relay Service	Frame Relay Service
High Cap Dig Handoff Svc	High Capacity Digital Hand-Off Service
Hot Line	Hot Line
Hunt Groups Packet	Hunt Groups - Packet
Inband Signaling	Inband Signaling
Incoming Cls Barred-Pkt	Incoming Calls Barred - Packet
Initial Address Message	Initial Address Message
Logical Chan Layout-Pkt	Logical Channel Layout - Packet
Logical Channels-Pkt	Logical Channels - Packet
MLHG Access to Each Port	Multiline Hunt Group - Individual Access To Each Port In Hunt Group
MLHG CO Announcements	Multiline Hunt Group - C.O. Announcements
MLHG Overflow	Multiline Hunt Group - Overflow
MLHG UCD Line Hunting	Multiline Hunt Group - Uniform Call Distribution Line Hunting
MLHG UCD With Queuing	Multiline Hunt Group - UCD With Queuing
MWI - Packet Access	Message Waiting Indicator - Packet Access
MWI ATR Audible Msg Wtg	Message Waiting Indicator (MWI) - Ability To Receive Audible Message Waiting
MWI ATR Visual Msg Wtg	Message Waiting Indicator (MWI) - Ability To Receive Visual Message Waiting
MWI Act (Audible) Expand	Message Waiting Indicator Activation(Audible) - Expanded
MWI Act (Visual) Expand	Message Waiting Indicator Activation(Visual) - Expanded
MWI Activation (Audible)	Message Waiting Indicator - Activation (Audible)
MWI Activation (Visual)	Message Waiting Indicator - Activation (Visual)
MWI Audible/Visual	Message Waiting Indicator - Audible/Visual
Make Busy Key	Make Busy Key
MegaBit Service	MegaBit Service
Menu Acs Trans - Gateway	Menu Access Translator - Gateway
Menu Server-Pkt	Menu Server - Packet
Message Desk (SMDI)	Message Desk (SMDI)
Monthly Call Detail Rec	Monthly Call Detail Recording
Mplx-T1-1.544Mbps-Line	Multiplexing - T1 Transport - 1.544 Mbps-Line Side
Mplx-T1-1.544Mbps-Trunk	Multiplexing - T1 Transport - 1.544 Mbps-Trunk Side
Mssg Desk Expand (SMDIE)	Message Desk (SMDI) - Expanded
Mult Ntwk Addr/Port-Pkt	Multiple Network Address/Port - Packet

ABBREVIATIONS

Generic Name of Service Abbreviated Name	Generic Name of Service Full Name
Multiline Hunt Group	Multiline Hunt Group
Multiplexing-Digital	Multiplexing - Digital
Name of Calling Party	Delivery of Calling Party Name
Network Reconfiguration	Network Reconfiguration
Order Entry Service	Order Entry Service
Outgoing Cls Barred-Pkt	Outgoing Calls Barred - Packet
Perm Virtual Ckt-Pkt	Permanent Virtual Circuit - Packet
Preselect for Data Svcs	Preselection for Data Services
Priority Service Install	Priority Installation Service
Remote Call Forwarding	Remote Call Forwarding
Rev Bllg On Ckt Acc	Reverse Billing On Circuit Switched Access
Rev Chg Req Optn-Pkt	Reverse Charge Request Option (Packet)
Reverse Chg Accept Pkt	Reverse Charge Acceptance - Packet
Route Diversity	Route Diversity
Secondary Ch Capability	Secondary Channel Capability
Selective Call Forward'g	Selective Call Forwarding
Selective Call Rejection	Selective Call Rejection
Shared Speed Calling	Shared Speed Calling
Single Num Acc-Mult Locn	Single Number Access for Multiple Locations
Speed Calling	Speed Calling
Surrogate Client Number	Surrogate Client Number
Svc Code Denial Ln/Hunt	Service Code Denial On Line Or Hunt Group
Switched 56 Kilobit Svc	Switched 56 Kilobit Service
Tandem Routing	Tandem Routing
Third Numb Bill Inhibitd	Third Number Billing Inhibited
Three Way Call Transfer	Three Way Call Transfer
Three Way Calling	Three Way Calling
Traffic Data Reports	Traffic Data Reports
Trans Imprv-Ckt Sw Svcs	Transmission Improvement for Circuit Switched Services
Trunk Side Access Facil	Trunk Side Access Facility
Unif 7D Acc Num Overlay	Uniform 7 Digit Access Number via Overlay Networking
Unif 7D Acc Num RCF	Uniform 7 Digit Access Number - Remote Call Forwarding
Unif Acc Numb-Bus Lines	Uniform Access Numbers for Business Lines
User Initd Diagnostics	User Initiated Diagnostics
Ver Intgrty Subscr Lines	Verify Integrity of Subscriber Lines
Video DT Messaging Port	Video Dialtone Messaging Port
Video Dialtone Access Lk	Video Dialtone Access Link
Video Dialtone Bdcst Svc	Video Dialtone Broadcast Service
Video Dialtone Narrowcas	Video Dialtone Narrowcast Service
Warm Line	Warm Line
(3/31/00)	

ATTACHMENT 2

BELL OPERATING COMPANIES

Service Descriptions
ONA Services User Guide

January 31, 2000

ONA Services

Names, Descriptions, Cross References

1

FOREWORD

Attached is the Services Descriptions section of the ONA Services User Guide, an update of information that was previously issued on July 31, 1999.

The Services Descriptions section of the ONA Services User Guide represents an agreement on the part of the BOCs for uniform names and technical descriptions of the Basic Serving Arrangements (BSAs), Basic Service Elements (BSEs) and Complementary Network Services (CNSs) that relate to the ESP requests included in BOC ONA Special Report Number 1, Issue 2 (October 1987). That Special Report is a compilation of the 118 requests received by all the BOCs during the input process for ESP requests prior to filing of the 2/1/88 ONA Plans. Some items, marked with an asterisk (*) in their titles, have been deleted after the last issue of the report based on the availability of updated information indicating that they cannot be offered. For each service listed, a table is provided that gives an indication of which BOCs plan to offer the service, the individual BOC's product name, and whether the BOC classifies the service as a BSA, BSE or CNS.

The BSAs, which respond to the 118 ESP requests for ONA services, are listed in the following four categories of Basic Serving Arrangements:

- Circuit Switched Serving Arrangements

A circuit switched basic serving arrangement (BSA) provides an enhanced service provider (ESP) with a connection to the circuit switched network.

- Packet Switched Serving Arrangements

A packet switched BSA provides an ESP with a connection to the packet switched network.

- Dedicated Serving Arrangements

A dedicated BSA provides an ESP with a dedicated point-to-point connection through the network.

- Dedicated Network Access Link Serving Arrangements

A dedicated network access link (DNAL) BSA provides a dedicated data channel between the ESP's termination and a designated central office which contains the specific features required by the ESP. The DNAL is used to transmit control information from the ESP to the network or to deliver information from the network to the ESP.

Following the BSAs are the BSEs and CNSs, which are listed in alphabetical order in the above four BSA categories. These BSEs and CNSs respond to the 118 ESP requests for ONA services that were made to all BOCs. A description of each BSE or CNS is provided, which includes a brief technical description and a table listing the product name for each company that offers the service.

Appendix 1 contains a set of descriptions of ONA services that are offered by one or more BOC in response to requests received independent of the 118 ESP requests received by all BOCs. Included is a technical description and a table with the product name for each company that offers the service.

Appendix 2 contains a list of BOC contacts.

Appendix 3 contains the BSA Matrix, a report that shows the relationship between the BSAs and the BSEs included in the ONA Services User Guide. Included is a table showing the generic name for each BSA, and the specific name used by each company offering the BSA. Also included is a set of tables, one for each BSA, listing which BSEs are associated with the BSA for each company. These matrices only include generic BSAs and BSEs, and do not include the CNSs or any region specific services.

This report does not supersede any information provided in the BOC ONA plans and amendments. All capabilities described are not available in all switching or transmission systems. Generic descriptions of BSAs do not imply that applicable generic functions and capabilities are available or compatible with all types of BSAs. In addition, generic descriptions are intended for informational purposes and their existence does not imply that specific products and/or services are necessarily tariffed and/or available in any or all state/ federal jurisdictions within a particular company's service area. The BSAs, BSEs and CNSs identified in this report cannot be ordered until appropriate tariffs are effective. Some ONA services may not be tariffed in all areas. The reader should refer to the individual BOC ONA plans and amendments or the BOC contacts listed in Appendix 2 to this report for information on BOC availability and deployment plans for the technical capabilities described in this report.

References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

Technical references that are publicly available are listed for each service, where available. Ordering information for each of the technical references may be found in the *Telcordia Technologies Catalog of Technical Information* (including ordering information for reference documents published by individual regional companies). To order, call 1-800-521-2673 toll free from anywhere in the USA; call (732) 699-5800 for foreign calls; fax (732) 336-2559.

Recently, various BOCs have completed, or are in the process of completing, corporate mergers. For this document, the old company names will continue to be used (for example, Bell Atlantic and NYNEX are listed separately; Southwestern Bell and Pacific Bell are listed separately).

Questions on this report should be directed to the BOC contacts listed in Appendix 2 to this report.

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BSA Descriptions

BSAs have been arranged into four categories:

1. Circuit Switched
2. Packet Switched
3. Dedicated
4. Dedicated Network Access Link

Each category may have several types. Following are descriptions of the BSA categories and the associated BSA types.

1. Category 1 - Circuit Switched BSA

A circuit switched basic serving arrangement (BSA) provides an enhanced service provider (ESP) with a connection to the circuit switched network. This BSA is capable of supporting analog signals of approximately 300 to 3000 Hz or a circuit switched digital interface with a call type of digital encoded voice, 3.1 kHz or 7 kHz audio, 56 kbps or 64 kbps data transmission. This BSA may also transmit voice grade analog data. The transmission interface may be 2-wire or 4-wire, or derived from a variety of multiplexing alternatives (for example, Digital Signal (DS) level 0 from DS level 1, or DS1 from DS3).

This BSA may support one-way or two-way directionality. Calls are set up and taken down on a call by call basis. The transport/usage element could be intra-office or inter-office.

Route diversity may be available with this serving arrangement.

1.1 Category 1, Type A - Circuit Switched Line BSA (1039)

Service Description

A circuit switched line BSA provides an ESP with a line side connection to the circuit switched network.

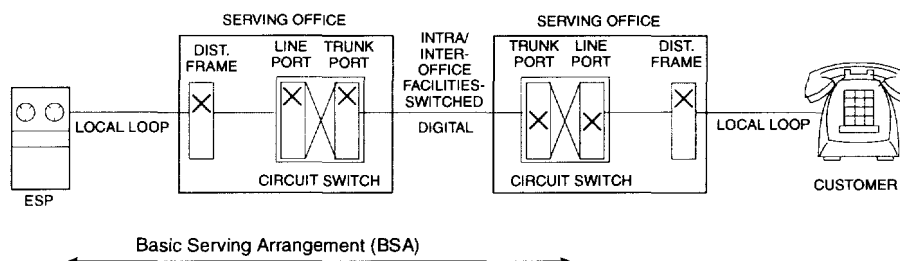
This line side connection could include alternative types of network connection, address and supervisory in-band or out-of-band signaling. Examples of network connections are standard telephone line or a line side type connection (e.g., PBX service). This BSA may support one-way or two-way directionality on a 2-wire or 4-wire transmission interface.

Calls are set up and taken down on a call by call basis. The calling scope may include, for example, an entire Local Access and Transport Area (LATA), a market area or be limited to all or part of a metropolitan area. Directory numbers are assigned from the North American Numbering Plan without any special routing or other use of the number.

Generic Name of BSA	Regional Company BSA Name
Category 1, Type A - Circuit Switched Line BSA*	AM - Circuit Switched Line BA - Business Individual Line BA - Line Side BSA BS - Voice Grade - Line - Circuit Switched NX - Circuit Switched - Line PB - Access Line Arrangement SWB - Circuit Switched - Line Side Basic Serving Arrangement (BSA-A) USW - Voice Grade - Line - Circuit Switched

* Based on the Federal Communications Commission (FCC) CC Docket 89-79 Order dated July 11, 1991, there will be a new line side BSA on FCC approval of tariffs submitted November 1, 1991.

Voice Grade – Line – Circuit Switched – BSA



Alternatives

An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the Local Exchange Carriers (LECs). Refer to the individual LEC tariff reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: Service Code Denial and Uniform Call Distribution.

Signaling

Signaling arrangements extend line circuit or signaling circuit alerting information on metallic or fiber facilities from one customer premises location to another customer premises location. The signaling arrangement can be terminated on trunk-like or line side interfaces of the LEC switch. Examples of address signaling on an analog interface are dial pulse or dual tone multifrequency (DTMF) with supervisory signaling of loop start or ground start. A digital interface will offer address and supervisory signaling via an out-of-band standardized protocol.

Transmission

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture. Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the points of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interfaces

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References

- GR-334 Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994
- U S WEST's document 77316 Pacific Northwest Bell's Addendum to Voice Grade Switched Access Service TR-NPL-000334, April 1986.

1.2 Category 1, Type B - Circuit Switched Trunk BSA (1040)

Service Description

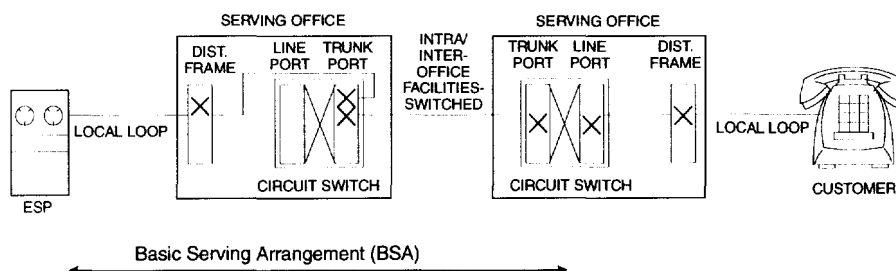
A circuit switched trunk BSA provides an enhanced service provider (ESP) with a trunk side connection to the circuit switched network.

Various types of network connections, address signaling and supervisory signaling are available. An example of network connections to the serving office may be direct trunk or a tandem connection. Calls are set up and taken down on a call-by-call basis. Different access arrangements, based on the North American Numbering Plan, are available from the Local Exchange Carriers (LEC). This BSA may support one-way or two-way directionality.

Generic Name of BSA	Regional Company BSA Name
Category 1, Type B - Circuit Switched Trunk BSA	AM - Circuit Switched Trunk BA - Trunkside BSA - 950 Option BA - Trunkside BSA - 10XXX Option BS - Circuit Switched Trunk - Voice Grade NX - Circuit Switched Trunk PB - Access Trunk Arrangement (950) PB - Access Trunk Arrangement (10XXX) SWB - Circuit Switched - Trunk Side Alternative B Basic Serving Arrangement (BSA-B) SWB - Circuit Switched - Trunk Side Alternative D Basic Serving Arrangement (BSA-D) USW - Voice Grade - Trunk - Circuit Switched

Alternatives

Voice Grade – Trunk – Circuit Switched — BSA



An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the LECs. Refer to the individual LEC tariff reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: Service Class Routing, Dial Pulse Address Signaling, and Cut Through.

Signaling

Signaling arrangements extend trunk circuit or signaling circuit alerting information on metallic or fiber facilities from one customer premises location to another customer premises location. These signals are the means by which the end user initiates a request for service, holds a connection or releases a connection. The signaling arrangements can be terminated on line-like or trunk side interfaces of the LEC switch. Examples of point-of-termination supervisory signaling arrangements that may be ordered are Multi-Frequency (in-band), Signaling System 7 (SS7) (out of band), reverse battery and E&M.

Transmission

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture. Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the points of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interfaces

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References

- GR-334 Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994
- TR-TSY-000698 Feature Group B FSD 20-24-0300, Issue 1, June 1989, Rev. 1, July 1990
- LSSGR FR-64 (formerly FR-NWT-000064), GR-690, FSD 20-24-0000, Exchange Access Interconnection, Issue 1, March 1991, Issue 2, September 1995, Revision 01, October 1996
- TR-NPL-000258 Compatibility Information for Feature Group D Switched Access Service, Issue 1, October 1985.
- SR-NPL-001321 Connection Setup Time for Feature Group D and Terminating Feature Group B, Special Report, Issue 1, February 1989.
- Ameritech reference: AM TR-TMO-000094 Switched Access Service Feature Group D, August 1992. (Written as a companion document to TR-NWT-000334, Switched Access Service: Transmission Parameter Limits and Interface Combinations.)

References for SS7

- GR-905 Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and ISDN User Part (ISDNUP), Issue 2, Rev01 - December 1997, Rev02 - December 1998 (replaces TR-TSV-000905)

- GR-394, Switching System Generic Requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP) (A module of LSSGR FR-64), Issue 2, December 1997, Rev01 – November 1998 (replaces TR-NWT-000394)

References for Signaling Arrangements

- TA-NPL-000912 Compatibility Information for Telephone Exchange Service, Issue 1, February 1989.
- SR-2275 Bellcore Notes on the Networks, Issue 3, December 1997 (replaces SR-TSV-02275, Issue 2)

2. Category 2 - Packet Switched Basic Serving Arrangement

A packet switched BSA provides an ESP with a connection to the packet switched network via virtual and permanent virtual circuit connections. This BSA is capable of supporting analog or digital signals of various transmission rates. The transmission interface may be 2-wire or 4-wire, or derived from a variety of multiplexing alternatives (for example, Digital Signal (DS) level 0 from DS level 1, or DS1 from DS3).

2.1 Category 2, Type A - X.25 Packet Switched BSA (1001)

Service Description

The Type A Packet Switched BSA provides an ESP with X.25 or X.31 access to the BOC packet switching network via virtual and permanent virtual circuit connections. This interface conforms to Recommendations X.25 and X.31 of the International Telecommunication Union-Telecommunication Standardization Sector (ITU-TS) (formerly the International Telegraph and Telephone Consultative Committee [CCITT]).

X.25 includes physical, link and packet level procedures. At the physical level, data signaling rates of 1.2, 2.4, 4.8, 9.6 and 56 kbps are supported. The link level protocol supported at the interface is Link Access Protocol Balanced (LAPB). The main functions of the link level protocol are to ensure that the packets cross the Data Terminal Equipment/Data Communications Equipment (DTE/DCE) interface essentially error free and reach their destination in a correctly transmitted sequence. The network level access protocol provides the procedures required to set up, maintain and clear virtual calls. X.31 defines the recommended procedures for using Q.931 protocol to establish digital customer premises equipment (CPE) calls to a packet network in accordance with defined bearer services.

Generic Name of BSA	Regional Company BSA Name
Category 2, Type A - X.25 Packet Switched BSA	AM - Packet Switched Network Service (X.25) BA - Public Data Network: X.25 BS - PulseLink [®] Packet Switching - X.25 NX - INFOPATH [®] Packet Switching Service PB - Public Packet Switching (X.25) SWB - Packet Switched - MicroLink II SM (X.25 Version) USW - Packet Switching (X.25)

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SM MicroLink II is a registered service mark of Southwestern Bell Telephone.